MIDDLE ATLANTIC
Region 1
HHS-N-276-2011-00003-C
Pilot Project using Anatomy Apps and Mobile Resources to Improve Learning in the Anatomy Lab
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01-DEC-2011-30-APR-2012
Special Funding Initiative: No
NN/LM Project Final Report
Report Submitted: 09-JUL-2012

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Executive Summary

Medical students are faced with a barrage of options when trying to learn the content in their preclinical years. Anatomy education in particular continues to evolve; much time is now spent learning in digital or web-based environments with reliance on imaging and electronic atlases. The target audience is NYU School of Medicine students. There are 162 students in each year. 100% of the class will be required to take the anatomy lab incorporating this technology.

To address the modernization of anatomy education, the NYU School of Medicine Division of Educational Informatics has created a 3-D interactive anatomy application for use in the anatomy lab. This application has great potential for improving student learning, but students need further support and clarification through accompanying electronic anatomy atlases. Purchase of the Netter's Anatomy Atlas app and Grant's Dissector through Inkling, combined iAnatomy, helped support innovation and digitization of the curriculum.

iAnatomy, NLM's app contest award winner, contains CT images of the body and was used in conjunction with Netter's, Grant's, and the 3-D BioDigital Human to solidify the anatomical structure memorization and understanding of the students. Based on preliminary data, this appears to have facilitated the students' ability to truly synthesize and solidify their knowledge so that they can seamlessly transition from the anatomy lab to the radiology or surgical suites.

Articles about this project in general, not focusing on the iPads specifically, can be seen in the New York Times and a video article at the Atlantic Monthly.

New York Times: http://www.nytimes.com/2012/01/08/business/the-human-anatomy-animated-with-3-d-technology.html

Atlantic Monthly: http://www.theatlantic.com/video/index/254306/

Minority Populations Served

African Americans: No
American Indians/Alaska Natives: No
Asian Americans: No
Hispanics/Latinos: No
Native Hawaiians and Pacific Islanders: No
Other: No

Approaches and Interventions Used

Objectives:
At the conclusion of the anatomy unit, the students will improve their ability to utilize mobile technologies to support life-long learning.

At the conclusion of the anatomy unit, the students will be able to identify appropriate electronic resources to support anatomy learning.

At the conclusion of the anatomy unit, the students will improve their ability to use electronic textbooks to support hands-on experiences.

Following purchase and installation of the apps and books on the iPads, the librarian, Joey Nicholson, and the software designer for the BioDigital Human, John Qualter, taught a short orientation session before students started their first anatomy dissections. In the following two weeks, both were incorporated into the actual anatomy lab class and walked around helping students with any problems or questions they encountered in their first experiences with using the iPads to support learning along with their dissections.

The students then had a break of a couple months before their next anatomy unit. This time, we did not orient the students since they already knew the basics, but we did attend each lab sessions to help answer any questions about use of the devices or if there were other resources needed.

Evaluation Activities

The project was evaluated along with the student course evaluation. The following questions were asked of the students, along with many more:

- How often they used the technology during the course.
- How comfortable they feel using mobile technologies to support their learning.
- How comfortable they feel using the Netter's Anatomy App to support their learning.
- How much they felt the different resources contributed to their learning.
- What are their top three most useful resources in learning anatomy.

The original project goals and objectives were met. The students quickly accepted the iPads and e-resources as new learning tools to leverage in better understanding how anatomy works.

Problems or Barriers Encountered

The biggest problem with this project was registering 30 iPads and installing the apps and eBooks on all of the iPads. It took three staff members a couple days to get through all of the basic set-up of the devices. Once they were installed, things have run very smoothly.

Continuation Plans

The iPads and 3-D BioDigital Human will continue to be used in the anatomy lab, along with the support of the NYU Health Sciences Libraries, the Division of Educational Informatics, and the anatomy faculty members. This has been seen as a very successful project by all participants and has helped enhance the reputation of the library as a key player at the table to provide resources and training to the medical students.

There are no specific plans to expand this project, but DEI is interested in creating other iPad learning environments around the medical school and is willing to partner with the library and the Office of Medical Education to help in funding projects.

Impact

A success story of this project is the new level of awareness and respect that the medical students have for the library. Prior to this project, most first year medical students did not have much of a need for the library other than as a place to study and to find a few key books. Now that they see what we can do, we are getting more requests for resources, more use of our existing resources, and more basic research questions.

We plan to submit an abstract to MLA 2013 to help share this project and these lessons.

Lessons Learned

One of the unexpected results was the raised level of awareness of the library and its resources. Many of the students and faculty were unaware of our electronic collections, in spite of our efforts to promote them. Being able to sit at a dissection table with students gave us the chance to see what exactly they are doing and how different resources could best be used.

For other who might want to employ a similar model, I would say that partnership with the right people at your institution is key. This program would not have been successful without the endorsement and partnership of key faculty members.

Other

No Other Info...

Attachment 1: AR summary data: Subcontractor activities